

Search Report

STIC Database Tracking Number: 24

To: JOSE DEES Location: JEF-8D59

Art Unit: 2800 Tuesday, December 04, 2007

Case Serial Number: 08/883145

From: DIANE JACKSON

Location: EIC2800 JEF-4B68 / JEF-4B68

Phone: (571)272-3260

diane.jackson@uspto.gov

Search Notes

Attached are litigation search results in Lexis Nexis, and CourtLink and Questel-Orbit.

No Litigation was found for 5793793.

If you have any questions, please feel free to contact me.

Thanks,

Diane



Jackson, Diane

From: Sent: To:

DEC

Dees, Jose Tuesday, December 04, 2007 4:10 PM STIC-EIC2800

Please do a litigation search for patent no. 5,793,793.

Thanks, J Dees

Jose' G. Dees Jose' G. Dees T-QAS, TC 2800 571-272-1569



244909

Day : Tuesday Date: 12/4/2007 Time: 16:16:49

Patent Number Information

Application Number: 08/883145 Assignments

Filing or 371(c) Date: 06/27/1997 eDan

Effective Date: 06/27/1997 Application Received: 06/27/1997

Patent Number: 5793793

Issue Date: 08/11/1998
Date of Abandonment: 00/00/0000

Attorney Docket Number: 040894-5147

Status: 150 / PATENTED CASE Confirmation Number: 4875

Title of Invention: SPARK PLUG

Examiner Number: 69409 / PATEL, NIMESHKUMAR

Group Art Unit: 2875

Class/Subclass: 313/141.000

Lost Case: NO

Interference Number: Unmatched Petition: NO

L&R Code: Secrecy Code:1
Third Level Review: NO

Secrecy Order: NO

Status Date: 07/07/1998

Oral Hearing: NO

Bar Code	PALM Location	Location Date	Charge to Loc	Charge to Name	Employee Name	Location
08883145	28M1	12/03/2007	28U3	DEES, JOSE	2800,OUTGOING MAIL	JEF/00/C 05

Search Another: Application #	Search	or Patent#	Search
PCT //	Search or	PG PUBS #	Search
Attorney Docket #		Search	
Bar Code #	Search		

Appln Contents Petition Info Atty/Agent Info Continuity/Reexam Foreign Data Inventors

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Inventors



Day: Tuesday Date: 12/4/2007 Time: 16:16:59

Continuity Information for 08/883145

Parent Data
No Parent Data

Child Data

09513215 is a reissue of 08883145

11495524 is a continuation of 09513215

Appln Info Contents Petition Info Continuity/Reexam

Foreign Data

Search Another: Application # Search or Patent# Search

PCT / Search or PG PUBS # Search

Attorney Docket # Search

Bar Code # Search

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Extended Family Search Results

US5793793/PN Results: 6

PATENT FAMILY

#	Patent No.	Kind	Date	Applic.No.	Date
1)	CN1170980	Α	19980121	1997CN-0113548	19970627
	CN1059293C	С	20001206		
2)	DE69703011	D1	20001012	1997DE-6003011	19970627
	DE69703011	T2	20010111		
	DE69703011	T3	20040527		
<u>3</u>)	EP-817341	A1	19980107	1997EP-0110583	19970627
	EP-817341	B1	20000906		
	EP-817341	B2	20031210		
4)	EP-975075	A2	20000126	1999EP-0122560	19970627
	EP-975075	A3	20000202		
5)	JP10074575	Α	19980317	1996JP-0335119	19961128
	JP3461670	B2	20031027		
<u>6</u>){	US5793793	Α	19980811	1997US-0883145	19970627

Priority:

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1996JP-0188347	19960628
1996JP-0335119	19961128
1997EP-0110583	19970627
1997US-0883145	19970627

1/6 PLUSPAT - @QUESTEL-ORBIT

CN1170980 A 19980121 [CN1170980] PN

STG (A) Unexamined application

(A) Spark plug ΤI

(A) NGK SPARK PLUG CO (JP) PA

IN (A) JUNICHI KAGAWA (JP); WATARU MATSUTANI (JP)

IC (A) H01T-013/39

PN2 CN1059293 C 20001206 [CN1059293C]

STG2 -(C) Granted patent

TI2 (C) Spark plug

PA2 (C) NGK SPARK PLUG CO (JP)

IN2 (C) JUNICHI KAGAWA (JP); WATARU MATSUTANI (JP)

IC2 (C) H01T-013/39

AP CN97113548 19970627 [1997CN-0113548]

PR JP18834796 19960628 [1996JP-0188347] JP33511996 19961128 [1996JP-0335119]

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ICAA -
          H01T-013/39 [2006-01 A - I R M EP]
ICCA -
          H01T-013/39 [2006 C - I R M EP]
2/6 PLUSPAT - ©QUESTEL-ORBIT
          DE69703011 D1 20001012 [DE69703011]
PN
          (D1) Granted EP number in bulletin
STG
OTI
          (D1) Zündkerze
PA
          (D1) NGK SPARK PLUG CO (JP)
          (D1) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP)
IN
IC
          (D1) H01T-013/39
PN2
          DE69703011 T2 20010111 [DE69703011]
          (T2) Trans. Of EP patent
STG2 -
OTI2
          (T2) Zündkerze
PA2
          (T2) NGK SPARK PLUG CO (JP)
          (T2) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP)
IN2
IC2
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          DE69703011 T3 20040527 [DE69703011]
PN3
          (T3) Trans. Of EP patent after opposition
STG3 -
OTI3
          (T3) Zündkerze
PA3
          (T3) NGK SPARK PLUG CO (JP)
          (T3) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP)
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          (T3) H01T-013/39
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          JP18834796 19960628 [1996JP-0188347]
          JP33511996 19961128 [1996JP-0335119]
          H01T-013/39 [2006-01 A - I R M EP]
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ICCA -
          H01T-013/39 [2006 C - I R M EP]
          2000-39
UP
1/1 LEGALI - ©EPO
PN
          DE69703011 D1 20001012 [DE69703011]DE69703011 T2 20010111 [DE69703011]
AP
          DE69703011 19970627 [1997DE-6003011]
ACT
          20010906 DE/8363-A [-]
          OPPOSITION AGAINST THE PATENT
          EINSPRUCH GEGEN DAS PATENT ERHOBEN
          20040219 DE/8366-A [+]
          RESTRICTED MAINTAINED AFTER OPPOSITION PROCEEDINGS
          NACH DURCHFUEHRUNG DES EINSPRUCHSVERFAHRENS BESCHRAENKT
          AUFRECHTERHALTEN
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3/6 PLUSPAT - @QUESTEL-ORBIT - image

2004-08

UΡ

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PN - 🔁 EP0817341 A1 19980107 [EP-817341]

TI (A1) Spark plug

(A1) Zündkerze OTI (A1) Bougie d'allumage

Ouestel-Orbit QWEB

(A1) NGK SPARK PLUG CO (JP) PA

(A1) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP) IN

IC (A1) H01T-013/39

PN₂ EP0817341 B1 20000906 [EP-817341]

STG2 -(B1) Patent

TI2 (B1) Spark plug OTI2 (B1) Zündkerze

(B1) Bougie d'allumage (B1) NGK SPARK PLUG CO (JP) PA2

(B1) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP) IN2

IC2 (B1) H01T-013/39

EP0817341 B2 20031210 [EP-817341] PN₃

(B2) Patent after modification STG3 -

(B2) Spark plug TI3 (B2) Zündkerze OT13

(B2) Bougie d'allumage PA3 (B2) NGK SPARK PLUG CO (JP)

(B2) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP) IN3 IC3 (B2) H01T-013/39

LA ENGLISH (ENG) ΑP EP97110583 19970627 [1997EP-0110583]

JP18834796 19960628 [1996JP-0188347] PR JP33511996 19961128 [1996JP-0335119] H01T-013/39 [2006-01 A - I R M EP] ICAA -

ICCA -H01T-013/39 [2006 C - I R M EP]

EC H01T-013/39 DE FR GB IT DS

DT Basic

1/1 LEGALI - ©EPO

EP0817341 A1 19980107 [EP-817341]EP0817341 B1 20000906 [EP-817341]EP0817341 B2 PN 20031210 [EP-817341]

EP97110583 19970627 [1997EP-0110583] ΑP

ACT 19980107 EP/AK-A [+]

DESIGNATED CONTRACTING STATES: BENANNTE VERTRAGSSTAATEN DE FR GB IT

19980318 EP/17P-A [+] REQUEST FOR EXAMINATION FILED PRUEFUNGSANTRAG GESTELLT EFFECTIVE DATE: 19980115

19980415 EP/17Q-A [+] FIRST EXAMINATION REPORT ERSTER PRUEFUNGSBESCHEID EFFECTIVE DATE: 19980303

19980916 EP/RBV-A [+]
DESIGNATED CONTRACTING STATES (CORRECTION):
BENANNTE VERTRAGSSTAATEN (KORR.)
DE FR GB IT

19980916 EP/AKX-A [+] PAYMENT OF DESIGNATION FEES ZAHLUNG VON BENENNUNGSGEBUEHREN DE FR GB IT

20000906 EP/AK-A [+] DESIGNATED CONTRACTING STATES: BENANNTE VERTRAGSSTAATEN DE FR GB IT

20001012 EP/REF-A CORRESPONDS TO: ENTSPRICHT (DE 69703011 20001012 [DE69703011])

20001129 EP/ITF-A [+] IT: TRANSLATION FOR A EP PATENT FILED IT: DEPOSITO TRADUZIONE DI BREVETTO EUROPEO OWNER: SOCIETA' ITALIANA BREVETTI S.P.A.

20001201 EP/ET-A [+] FR: TRANSLATION FILED FR: TRADUCTION A ETE REMISE

20010801 EP/26-A [-]
OPPOSITION FILED
EINSPRUCH EINGELEGT
OPPONENT: DENSO CORPORATION; EFFECTIVE DATE: 20010605

20020101 EP/REG-A; GB/IF02 [+] GB: EUROPEAN PATENT IN FORCE AS OF 2002-01-01 <GB>

20031210 EP/AK-A [+] DESIGNATED CONTRACTING STATES: BENANNTE VERTRAGSSTAATEN DE FR GB IT

20031210 EP/27A-A [+]
MAINTENANCE AS AMENDED
AUFRECHTERHALTUNG IN GEAENDERTEM UMFANG
EFFECTIVE DATE: 20031210

20070228 EP/GBPC-A [-]

2007-10

4/6 PLUSPAT - @OUESTEL-ORBIT - image

EFFECTIVE DATE: 20060627

Ouestel Orbit OWEB

UP A

PN STG

FR: TRANSLATION FILED ** DECISION CONCERNING OPPOSITION FR: TRADUCTION A ETE REMISE ** DECISION CONCERNANT L'OPPOSITION

GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE

(A2) Pub. Of applic. Without search report (A2) A method for producing a spark plug (A2) Herstellungsverfahren einer Zündkerze

B EP0975075 A2 20000126 [EP-975075]

TI OTI (A2) Méthode de fabrication d'une bougie d'allumage

(A2) NGK SPARK PLUG CO (JP) PA (A2) MATSUTANI WATARUI (JP); KAGAWA JUNICHI (JP) IN

IC (A2) H01T-021/02

EP0975075 A3 20000202 [EP-975075] PN2 STG2 -(A3) Publi. Of search report

(A3) A method for producing a spark plug TI2

(A3) Herstellungsverfahren einer Zündkerze OTI2 (A3) Méthode de fabrication d'une bougie d'allumage

PA2 (A3) NGK SPARK PLUG CO (JP) (A3) MATSUTANI WATARUI (JP); KAGAWA JUNICHI (JP) IN₂

IC2 (A3) H01T-021/02

LA ENGLISH (ENG)

EP99122560 19970627 [1999EP-0122560] AP PR EP97110583 19970627 [1997EP-0110583] JP18834796 19960628 [1996JP-0188347] JP33511996 19961128 [1996JP-0335119]

H01T-013/39 [2006-01 A - I R M EP]; H01T-021/02 [2006-01 A - I R M EP] ICAA -H01T-013/39 [2006 C - I R M EP]; H01T-021/00 [2006 C - I R M EP] ICCA -

EC H01T-013/39

H01T-021/02 DS DE FR GB IT

DT Basic

1/1 LEGALI - ©EPO

EP0975075 A2 20000126 [EP-975075]EP0975075 A3 20000202 [EP-975075]

PN

ΑP EP99122560 19970627 [1999EP-0122560]

ACT 20000126 EP/AC-A DIVISIONAL APPLICATION (ART. 76) OF:

TEILANMELDUNG (ART. 76) AUS:

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20000126 EP/AK-A [+]
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         DE FR GB IT
         20000202 EP/AK-A [+]
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          DE FR GB IT
          20000503 EP/17P-A [+]
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          PRUEFUNGSANTRAG GESTELLT
          EFFECTIVE DATE: 20000307
          20001018 EP/AKX-A [+]
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          DE FR GB IT
         20031022 EP/17O-A [+]
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          ERSTER PRUEFUNGSBESCHEID
          EFFECTIVE DATE: 20030905
          20040728 EP/18D-A [-]
          DEEMED TO BE WITHDRAWN
          ALS ZURUECKGENOMMEN GELTEN
          EFFECTIVE DATE: 20040116
         2004-31
5/6 PLUSPAT - @QUESTEL-ORBIT - image
          A JP10074575 A 19980317 [JP10074575]
          (A) Doc. Laid open to publ. Inspec.
          (A) SPARK PLUG
         (A) NGK SPARK PLUG CO (JP)
         (A) NGK SPARK PLUG CO LTD
          (A) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP)
          (A) C22C-005/04 F02P-013/00 H01T-013/39
          JP3461670 B2 20031027 [JP3461670]
STG2 -
         (B2) Grant, Pat. With A from 2500000 on
          (B2) C22C-005/04 F02P-013/00 H01T-013/39
          JP33511996 19961128 [1996JP-0335119]
          JP33511996 19961128 [1996JP-0335119]
          JP18834796 19960628 [1996JP-0188347]
          H01T-013/39 [2006-01 A - I R M EP]
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ICCA -
          H01T-013/39 [2006 C - I R M EP]
          F02P13/00 301J; C22C5/04; H01T13/39
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Questel-Orbit QWEB
          3G019 CA00; 3G019 KA01; 5G059 AA04; 5G059 CC02; 5G059 DD11; 5G059 EE11
FTM
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6/6 PLUSPAT - @QUESTEL-ORBIT - image
PN
          D US5793793 A 19980811 [US5793793]
STG
          (A) United States patent
ΤI
          (A) Spark plug
PA
          (A) NGK SPARK PLUG CO (JP)
PA<sub>0</sub>
          NGK Spark Plug Company, Ltd., Nagoya [JP]
          (A) KAGAWA JUNICHI (JP); MATSUTANI WATARU (JP)
IN
IC
          (A) H01T-013/20 H01T-013/39
AP
          US88314597 19970627 [1997US-0883145]
PR
          US88314597 19970627 [1997US-0883145]
          JP18834796 19960628 [1996JP-0188347]
          JP33511996 19961128 [1996JP-0335119]
ICAA -
          H01T-013/39 [2006-01 A - I R M EP]
          H01T-013/39 [2006 C - I R M EP]
ICCA -
EC
          H01T-013/39
          ORIGINAL (O): 313141000; CROSS-REFERENCE (X): 313142000
PCL
          Corresponding document
DT
1/1 LEGALI - ©EPO
PN
          US5793793 A 19980811 [US5793793]
AΡ
          US88314597 19970627 [1997US-0883145]
ACT
          19970627 US/AS02-A
          ASSIGNMENT OF ASSIGNOR'S INTEREST
          OWNER: NGK SPARK PLUG CO., LTD. 14-18, TAKATSUJI-CHO, MIZ; EFFECTIVE
          DATE: 19970625
          19970627 US/AS02-A
          ASSIGNMENT OF ASSIGNOR'S INTEREST
          OWNER: MATSUTANI, WATARU; EFFECTIVE DATE: 19970625
          19970627 US/AS02-A
          ASSIGNMENT OF ASSIGNOR'S INTEREST
          OWNER: KAGAWA, JUNICHI; EFFECTIVE DATE: 19970625
          19990928 US/CC-A
          CERTIFICATE OF CORRECTION
          20000725 US/RF-A
          REISSUE APPLICATION FILED
          EFFECTIVE DATE: 20000223
          20060912 US/RF-A
          REISSUE APPLICATION FILED
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2006-37

UP

EFFECTIVE DATE: 20060731

Тор

Back

PN

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20042781950047 FAN

DUS5793793 A 19980811 [US5793793] STG: United States patent

AP: 1997US-0883145 19970627

TI Spark plug

NGK SPARK PLUG CO PA

PA0 NGK Spark Plug Company, Ltd., Nagoya [JP]

IN KAGAWA JUNICHI; MATSUTANI WATARU

PR

1996JP-0188347 19960628; 1996JP-0335119 19961128; 1997US-0883145 19970627 IC H01T-013/20

H01T-013/39

H01T-013/39 [2006-01 A - I R M EP] ICAA -

ICCA -H01T-013/39 [2006 C - I R M EP]

H01T-013/39

(US5793793)

EC PCL ORIGINAL (O): 313141000; CROSS-REFERENCE (X): 313142000

CT (US5793793)

US1850819, US4324588, US4893051, EP0243529 A1, GB479540, GB2302367

Spark plug has a central electrode, an insulator provided exterior to the central electrode, main metallic shell provided exterior to the insulator in such a way that the central electrode protrudes from one end, and a ground electrode coupled at one end to the main metallic shell and which has the other end disposed to face the central electrode 3, with a chip being secured to either the central electrode or the ground electrode or both to form spark discharge gap g. The chip is made of a metal based on Ir which contains Rh in an amount ranging from 3 to 50 wt % (50 wt % being not inclusive).

OBJ (US5793793) The present invention relates to a spark plug for use in internal combustion engines. It is an object of the present invention to provide a spark plug having an igniting portion chiefly made of Ir and which yet is sufficiently resistant to consumption by oxidation and evaporation of the Ir component at elevated temperatures to assure high endurance not only during driving on city roads but also during continuous running at high speed. The present inventors have found that if the igniting portion of an electrode which forms a spark discharge gap is made of an alloy that is mainly made of Ir and which contains an amount of Rh in the stated ranger the consumption due to oxidation and evaporation of the Ir component at high temperatures is effectively retarded to thereby realize a highly durable

spark plug, ADB (US5793793) A problem with the use of Ir as a material to constitute the igniting portion of the spark plug is that Ir is easy to oxidize and evaporate in a high temperature range of 900 (degree) to 1,000 (degree) C. Therefore, if it is directly used in the igniting portion of the electrode, it is more

consumed by oxidation and evaporation than by spark. ICLM -(US5793793)

A spark plug comprising:

a central electrode:

an insulator provided exterior to the central electrode;

a main metallic shell provided exterior to the insulator; a ground electrode coupled to one end of the main metallic shell and having another end

Ouestel · Orbit OWEB

· facing the central electrode; and

from over 10% to less than 30% wt %.

an igniting portion secured to at least one of the central electrode and the ground electrode and forming a spark discharge gap; wherein the igniting portion includes an Ir-based alloy including Rh in an amount ranging

UP - 2000-08

1/1 LGST - ©EPO
PN -

□ US5793793 A 19980811 [US5793793]

AP - US88314597 19970627 [1997US-0883145]

ACT - 19970627 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: NGK SPARK PLUG CO., LTD. 14-18, TAKATSUJI-CHO, MIZ; EFFECTIVE DATE: 19970625

19970627 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST OWNER: MATSUTANI, WATARU; EFFECTIVE DATE: 19970625

19970627 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KAGAWA, JUNICHI; EFFECTIVE DATE: 19970625

19990928 US/CC-A CERTIFICATE OF CORRECTION

CERTIFICATE OF COLUMNIA.

20000725 US/RF-A REISSUE APPLICATION FILED EFFECTIVE DATE: 20000223

20060912 US/RF-A REISSUE APPLICATION FILED EFFECTIVE DATE: 20060731

IIP - 2006-37

1/1 CRXX - ©CLAIMS/RRX

AN - 3024186

PN - 📆 5,793,793 A 19980811 [US5793793]

PA - NGK Spark Plug Co Ltd JP

PT - E (Electrical)

ACT - 20000223 REISSUE REQUESTED

ISSUE DATE OF O.G.: 20000725

REISSUE REQUEST NUMBER: 09/513215

EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2875

Reissue Patent Number:

►20060731 REISSUE REQUESTED ISSUE DATE OF O.G.: 20060912

REISSUE REQUEST NUMBER: 11/495524 EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2875

Reissue Patent Number:

UP - 1999-38 UACT - 2006-09-12

Search statement

Back

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Patent Search 5793793 12/4/2007

No cases found.

Return to Search

(Charges for search still apply)

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All Results - (1) Agency Materials - (1)

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History |

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Source: Combined Source Set 10 ii - Utility, Design and Plant Patents
Terms: patno=5793793 (Edit Search | Suggest Terms for My Search)

883145 (08) 5793793 August 11, 1998

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5793793

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Order Patent File History / Wrapper from REEDFAX® Link to Claims Section

August 11, 1998

Spark plug

REISSUE: February 23, 2000 - Reissue Application filed Ex. Gp.: 2875; Re. S.N. 09/513,215 (O.G. July 25, 2000) 2000) July 31, 2006 - Reissue Application filed, Ex. Gp.: 2875; Re. S.N. 11/495,524 (O.G. September 12, 2006)

INVENTOR: Matsutani, Wataru - Nagoya, Japan (JP); Kagawa, Junichi - Nagoya, Japan (JP)

CERT-CORRECTION: September 28, 1999 - a Certificate of Correction was issued for this patent

APPL-NO: 883145 (08)

FILED-DATE: June 27, 1997

GRANTED-DATE: August 11, 1998

ASSIGNEE-PRE-ISSUE: June 27, 1997 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., NGK SPARK PLUG CO., LTD. 14-18, TAKATSUJI-CHO, MIZUHO-KUNAGOYA-SHI, AICHI, (1), Reel and Frame Number: 008655/0203

ASSIGNEE-AT-ISSUE: NGK Spark Plug Co., Ltd., Nagoya, Japan (JP), Foreign company or corporation (03)

LEGAL-REP: Morgan, Lewis & Lewis

PUB-TYPE: August 11, 1998 - Utility Patent having no previously published pre-grant publication (A)

PUB-COUNTRY: United States (US)

US-MAIN-CL: 313#141

US-ADDL-CL: 313#142

CL: 313

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Combined Source Set 15 [i] - Federal & State Cases, Combined; Federal Court Cases, Combined; State Court Cases, Combined; U.S. Supreme Court Cases, Lawyers' Edition; U.S. Supreme Court Briefs; Federal Agency Decisions, Combined; State Administrative Codes & Registers, Combined

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© Terms and Connectors Natural Language Easy Search (5793793 or 5,793,793) Restrict by Document Segment: Select a document segment, enter search terms for the segment, then click Add.	Search Connectors and and or or or within N words ggr_N; within N words w/p in same paragraph w/seg in same segment in same sentence and not and not > More Connectors & Commands
Select a Segment Note: Segment availability differs between sources. Segments may not be applied consistently across so Restrict by Date: © No Date Restrictions ▼ C From ▼ To □ Date Formats	Now Do I? > Use wildcards as placeholders for one or more characters in a search term? > Restrict by document segment' > Restrict by date?
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